

WHAT IS CLAIMED IS:

1. An information receiving apparatus comprising:
receiving means for receiving transmitted data;
data transmitting means for extracting necessary data from the received data and for transmitting the necessary data to a storage device as recording data for downloading;
mode instruction means for instructing the storage device on a downloading mode;
status determination means for determining the downloading-operation status of the storage device; and
control means for controlling an operation progress in the downloading mode according to the determination performed by said status determination means.
2. An information receiving apparatus according to Claim 1, wherein said mode instruction means instructs the storage device to perform a setup for a recording wait status when said mode instruction means has the storage device start the downloading mode, and instructs to start and stop recording on a recording device by detecting the start and stop timing of the recording data which said data transmitting means transmits.
3. An information receiving apparatus according to Claim 1, wherein said mode instruction means requests the

storage device to report an operation condition at the storage device during the downloading mode, and

said status determination means determines the downloading-operation status according to the report of the operation condition sent from the storage device.

4. An information receiving apparatus according to Claim 1, wherein, when said status determination means has determined that data was recorded in the storage device, said control means instructs the storage device to record management information and/or additional information related to the recorded data and makes said data transmitting means transmit necessary management information and/or additional information to the storage device.

5. An information receiving apparatus according to Claim 1, wherein said control means controls so as to perform a retry operation of downloading when said status determination means has determined that an error occurred in the downloading operation in the storage device.

6. An information receiving apparatus according to Claim 5, further comprising presentation means,

wherein, when the retry operation is impossible, said control means makes said presentation means show the condition, and said control means makes said mode

instruction means instruct the storage device to terminate the downloading mode.

7. An information receiving apparatus according to Claim 1, wherein, when said status determination means has determined that data was recorded in the storage device, or when said status determination means has determined that management information and/or additional information was recorded in the storage device, said control means makes said mode instruction means to instruct the storage device to terminate the downloading mode.

8. A downloading method to be executed by an information receiving apparatus which receives transmitted data; extracts necessary recording data from the received data; transmits the necessary data to a storage device; and downloads and records the necessary data on a recording medium, comprising:

a start step of instructing the storage device to start a downloading mode, of extracting necessary data from the received data, and of starting transmitting the necessary data to the storage device as recording data for downloading;

a status determination step of determining the downloading-operation status of the storage device after said start step is performed;

a control step of controlling an operation progress in the downloading mode according to the determination performed in said status determination step; and

a termination step of instructing the storage device to terminate the downloading mode at a predetermined point of time according to the operation progress control in said control step.

9. A downloading method according to Claim 8, wherein in said start step the storage device is instructed to perform a setup for a recording wait status, and is also instructed to start and stop recording on a recording device by detecting the start and stop timing of the recording data to be transmitted.

10. A downloading method according to Claim 8, wherein in said start step the storage device is requested to report an operation condition at the storage device, and

in said status determination step the downloading-operation status is determined according to the report of the operation condition sent from the storage device.

11. A downloading method according to Claim 8, wherein in said control step, when it has been determined in said status determination step that data was recorded in the storage device, the storage device is instructed to record

management information and/or additional information related to the recorded data and control is performed so as to transmit necessary management information and/or additional information to the storage device.

12. A downloading method according to Claim 8, wherein in said control step control is performed so as to conduct a retry operation of downloading when it has been determined in said status determination step that an error occurred in the downloading operation in the storage device.

13. A downloading method according to Claim 12, wherein in said control step, when the retry operation is impossible, the condition is presented and the operation in said termination step is performed.

14. A downloading method according to Claim 8, wherein in said control step, when it has been determined in said status determination step that data was recorded in the storage device, or when it has been determined in said status determination step that management information and/or additional information was recorded in the storage device, the operation in said termination step is performed.

15. An information receiving apparatus comprising:
receiving means for receiving transmitted data;

recording-data transmitting means for extracting necessary data from the received data, for transmitting the necessary data to a storage device as recording data, and for recording the recording data on a recording medium;

determination means for determining whether a storage device is ready to perform a recording operation for recording data to be transmitted, before said recording-data transmitting means starts transmitting the recording data to the storage device; and

control means for controlling a data transmission operation performed by said recording-data transmitting means according to the determination result obtained by said determination means.

16. An information receiving apparatus according to Claim 15, further comprising device instruction means for instructing a storage device to be ready to receive recording data to be transmitted from said recording-data transmitting means, before said recording-data transmitting means starts transmitting the recording data to the storage device.

17. An information receiving apparatus according to Claim 15, wherein said determination means determines whether a recording medium is loaded into the storage device to which the recording data is to be transmitted.

18. An information receiving apparatus according to Claim 15, wherein said determination means determines whether a recording medium loaded into the storage device to which the recording data is to be transmitted is ready to record the recording data.

19. An information receiving apparatus according to Claim 15, wherein said determination means determines whether a recording medium loaded into the storage device to which the recording data is to be transmitted has a remaining recording capacity sufficient for the amount of the recording data to be transmitted.

20. An information receiving apparatus according to Claim 15, wherein said control means makes said recording-data transmitting means start a data transmission operation after said determination means has determined that the storage device to which the recording data is to be transmitted is ready to perform a recording operation for the recording data.

21. An information receiving apparatus according to Claim 15, further comprising presentation means, wherein, when the storage device to which the recording data is to be transmitted is determined not to be ready to perform a recording operation for the recording data, said control

means makes said presentation means present a message requesting a necessary action to be taken for the storage device.

22. An information receiving apparatus according to Claim 21, wherein, after said presentation means has presented a message requesting a necessary action to be taken, when the storage device is not yet ready to perform a recording operation for the recording data, said control means makes said recording-data transmitting means not execute a data transmission operation and also makes said presentation means present a message indicating this condition.

23. A downloading method to be executed by an information receiving apparatus which receives transmitted data; extracts necessary recording data from the received data; transmits the necessary data to a storage device; and downloads and records the necessary data on a recording medium, comprising:

a determination step of determining whether a storage device is ready to perform a recording operation for recording data to be transmitted, before the transmission of the recording data to the storage device is started; and

a start control step of starting a recording-data transmission operation when it has been determined from the

determination result in said determination step that the storage device to which the recording data is to be transmitted is ready to perform a recording operation for the recording data.

24. A downloading method according to Claim 23, further comprising a device instruction step of instructing the storage device to which the recording data is to be transmitted to be ready to receive the recording data to be transmitted from the information receiving apparatus, said device instruction step being performed before said determination step is performed.

25. A downloading method according to Claim 23, wherein in said determination step it is determined whether a recording medium is loaded into the storage device to which the recording data is to be transmitted.

26. A downloading method according to Claim 23, wherein in said determination step it is determined whether a recording medium loaded into the storage device to which the recording data is to be transmitted is ready to record the recording data.

27. A downloading method according to Claim 23, wherein in said determination step it is determined whether a recording

medium loaded into the storage device to which the recording data is to be transmitted has a remaining recording capacity sufficient for the amount of the recording data to be transmitted.

28. A downloading method according to Claim 23, further comprising a message presentation step of presenting a message requesting a necessary action to be taken for the storage device, said message presentation step being performed when said determination step determines that the storage device to which the recording data is to be transmitted is not ready to perform a recording operation for the recording data.

29. A downloading method according to Claim 28, further comprising a downloading cancel step of making a recording-data transmitting operation unexecuted and presenting this condition, wherein, after a message requesting a necessary action to be taken has been presented in said presentation step, when the storage device is not yet ready to perform a recording operation for the recording data, said downloading cancel step is performed.

30. An information receiving apparatus comprising:
receiving means for receiving transmitted data;

data transmitting means for extracting necessary data from the received data and for transmitting the necessary data to a storage device as recording data for downloading;

requesting means for requesting from the storage device the ongoing-recording-position information of the recording data currently being recorded, while the storage device is executing an operation for recording the recording data transmitted by said data transmitting means on a recording medium;

ongoing-recording-position-information determination means for receiving the ongoing-recording-position information transmitted in response to the request of said requesting means; and

progress-condition-display control means for generating the progress information data of the recording operation in the storage device according to the total-amount information of the recording data transmitted from said data transmitting means to the storage device and the ongoing-recording-position information received by said ongoing-recording-position-information determination means, and for outputting the progress information data as display data.

31. An information receiving apparatus according to Claim 30, wherein said requesting means requests the ongoing-recording-position information at a predetermined interval.

32. An information receiving apparatus according to Claim 30, wherein said progress-condition-display control means updates the progress information data and outputs it as display data every time said ongoing-recording-position determination means receives the ongoing-recording-position information.

33. An information receiving apparatus according to Claim 30, wherein the progress information data indicates the ratio of the ongoing-recording-position information to the total-amount information of the recording data.

34. A downloading-progress-condition display method to be executed by an information receiving apparatus which receives transmitted data; extracts necessary recording data from the received data; transmits the necessary data to a storage device; and downloads and records the necessary data on a recording medium, comprising:

a requesting step of requesting from the storage device the ongoing-recording-position information of the recording data currently being recorded, while the storage device is executing an operation for recording the transmitted recording data on a recording medium;

an ongoing-recording-position-information determination step of receiving the ongoing-recording-position information

transmitted in response to the request in said requesting step; and

a progress-condition-display control step of generating the progress information data of a recording operation in the storage device according to the total-amount information of the recording data transmitted to the storage device and the ongoing-recording-position information received in said ongoing-recording-position-information determination means, and of outputting the progress information data as display data.

35. A downloading-progress-condition display method according to Claim 34, wherein said requesting step is performed at a predetermined interval.

36. A downloading-progress-condition display method according to Claim 34, wherein in said progress-condition-display control step the progress information data is updated and outputted as display data every time said ongoing-recording-position information is received.

37. A downloading-progress-condition display method according to Claim 34, wherein the progress information data indicates the ratio of the ongoing-recording-position information to the total-amount information of the recording data.

38. An information receiving apparatus comprising:

receiving means for receiving transmitted data;

recording-data transmitting means for extracting necessary data from the received data, for transmitting the necessary data to a connected storage device, and for recording it on a recording medium;

device-information storage means for storing information related to each connected storage device;

device-information management means for obtaining information related to each storage device connected to said information receiving apparatus and for making said device-information storage means store the information; and

selection control means for performing a predetermined processing related to a storage-device selection with the use of the information stored in said device-information storage means in order to determine a storage device to which data is to be transmitted from said recording-data transmitting means.

39. An information receiving apparatus according to Claim 38, wherein said device-information management means obtains ID information from a storage device connected to said information receiving apparatus and makes said device-information storage means store the ID information.

40. An information receiving apparatus according to Claim 38, wherein said device-information management means determines the unit type of a storage device connected to said information receiving apparatus and makes said device-information storage means store the unit type.

41. An information receiving apparatus according to Claim 38, wherein said device-information management means determines whether a storage device connected to said information receiving apparatus can handle a data input in a predetermined data format and makes said device-information storage means store the determination result.

42. An information receiving apparatus according to Claim 38, wherein said device-information management means generates name data for a storage device connected to said information receiving apparatus and makes said device-information storage means store the name data.

43. An information receiving apparatus according to Claim 38, wherein, when a storage device is connected to said information receiving apparatus, said device-information management means collects, determines, or generates information related to the storage device and makes said device-information storage means store the information.

44. An information receiving apparatus according to Claim 38, further comprising input means for selecting a storage device and for inputting name data,

wherein said device-information management means makes said device-information storage means store name data input by said input means as the name data corresponding to a storage device selected by an operation on said input means.

45. An information receiving apparatus according to Claim 38, wherein, when a storage device is disconnected from said information receiving apparatus, said device-information management means makes said device-information storage means store data indicating disconnection as the information corresponding to the storage device.

46. An information receiving apparatus according to Claim 38, further comprising:

—input means for selecting a storage device; and

display-data output means for transmitting display data to a predetermined display unit and for making the unit display the data;

wherein said selection control means generates storage-device list data from the information stored in said device-information storage means, makes said display-data output means output the list data as display data, and determines a storage device to which data is to be transmitted from said

recording-data transmitting means according to a selection input for the display list data from said input means.

47. An information receiving apparatus according to Claim 46, wherein said selection control means generates the storage-device list data by referring to a part or the whole of the information of each storage device, the unit-type information, the connection-condition information, and the information of whether a data input in a predetermined data format is allowed.

48. An information receiving apparatus according to Claim 46, wherein said selection control means generates the storage-device list data with the use of the name data of each storage device, which has been stored in said device-information storage means.

49. A unit-selection method for selecting a storage device to which data is to be transmitted, for an information receiving apparatus which receives transmitted data; extracts necessary recording data from the received data; transmits the necessary data to a connected storage device; and records the necessary data on a recording medium, comprising:

an information collection step of requesting each connected storage device to send necessary information;

a storage step of storing the sent information as information related to the storage device; and

a selection control step of performing a predetermined processing with the use of information related to each storage device, stored in said storage step, in order to determine a storage device to which data is to be transmitted.

50. A unit selection method according to Claim 49, wherein, in said information collection step, a part or ~~the~~ whole of the information of a storage device connected to said information receiving apparatus, the ID information, the unit-type information, and the information of whether a data input in a predetermined data format is allowed, is collected from the storage device.

51. A unit selection method according to Claim 49, wherein, in said storage step, name data is generated ~~for a~~ storage device connected to said information receiving apparatus and the name data is stored.

52. A unit selection method according to Claim 49, wherein, when a storage device is connected to said information receiving apparatus, said information collection step is performed for the storage device.

53. A unit selection method according to Claim 49, further comprising a selection and input step of selecting a storage device and for inputting name data,

wherein in said storage step the name data input in said selection and input step is stored as the name data corresponding to the selected storage device.

54. A unit selection method according to Claim 49, further comprising a disconnection storage step of storing data indicating disconnection as the information corresponding to a storage device when the storage device is disconnected from said information receiving apparatus.

55. A unit selection method according to Claim 49, wherein, in said selection control step, storage-device list data is generated from the information stored in said storage step, the list data is output as display data, and a storage device to which data is to be transmitted is determined according to a selection input for the display list data.

56. A unit selection method according to Claim 55, wherein, in said selection control step, the storage-device list data is generated by referring to a part or the whole of the information of each storage device, the unit-type information, the connection-condition information, and the

information of whether a data input in a predetermined data format is allowed.

57. A unit selection method according to Claim 55, wherein, in said selection control step, the storage-device list data is generated with the use of the name data of each storage device, which has been stored in said storage step.